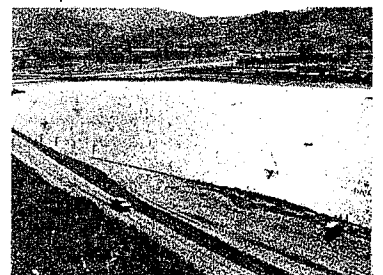


State of California  
The Resources Agency  
Department of  
Water Resources



# **The California State Water Project— Appendix D Costs of Recreation and Fish and Wildlife Enhancement**

Bulletin 132-79  
April 1979



ON THE COVER: Castaic Lagoon with Southern California Operations and Maintenance Center in the background.

**Department of  
Water Resources**

**Bulletin 132-79**

**The California State  
Water Project—  
Appendix D  
Costs of Recreation and Fish  
and Wildlife Enhancement**

**April 1979**

**Huey D. Johnson**  
Secretary for Resources

**Edmund G. Brown Jr.**  
Governor

**Ronald B. Robie**  
Director

**The Resources  
Agency**

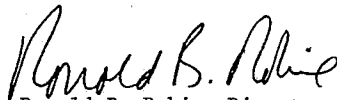
**State of  
California**

**Department of  
Water Resources**

## FOREWORD

The Davis-Dolwig Act (Sections 11900-11925 of the California Water Code) declares that recreation and fish and wildlife enhancement costs of State water projects benefit all of the people of California and are to be borne by them. The Act also provides a procedure through which the Department of Water Resources will be reimbursed for those recreation and fish and wildlife enhancement expenditures that are financed by project funds. The Department is to annually report such expenditures to the Legislature. If the Legislature approves the reported costs, a like amount of the State's tideland gas and oil revenues will be released to the Department from a continuing \$5,000,000 annual appropriation of tideland revenues which has been authorized specifically for that purpose (Public Resources Code Section 6217).

This constitutes the Department's 1979 report to the Legislature in compliance with the above requirement. An additional \$236,448 for recreation and fish and wildlife enhancement is reported herein. This amount consists of \$82,905 for joint capital costs of the State Water Project which are allocated to recreation and fish and wildlife enhancement, plus \$153,543 for specific recreation land costs. The additional amount is mostly due to costs incurred in 1978 and interest accrued during 1978 on recreation costs not yet reimbursed by the continuing annual appropriation. The Department requests that the additional amount be approved.



Ronald B. Robie, Director  
Department of Water Resources  
The Resources Agency  
State of California

State of California  
EDMUND G. BROWN JR., Governor

The Resources Agency  
HUEY D. JOHNSON, Secretary for Resources

Department of Water Resources  
RONALD B. ROBIE, Director

CHARLES R. SHOEMAKER  
Deputy Director

GERALD H. MERAL  
Deputy Director

ROBERT W. JAMES  
Deputy Director

JACK B. JOHNSTON  
Acting Deputy Director

This report was prepared by the  
STATE WATER PROJECT ANALYSIS OFFICE  
L. E. Swenson, Chief

under the direction of  
Donald R. Long, Chief, Cost Allocation and Repayment Section

by  
Jesse J. Cason, Associate Engineer  
Margaret A. Hutchinson, Staff Services Analyst  
Susan Shafer, Senior Stenographer

and on the basis of records compiled under the direction of

Thomas H. T. Morrow, Chief - Division of Land and Right of Way  
Donald A. Sandison, Comptroller  
Chester M. Winn, Chief - Contractor Accounting Office

## REPORTING OF RECREATION AND FISH AND WILDLIFE ENHANCEMENT COSTS

Section 11912 of the California Water Code assigns to the Department of Water Resources the following responsibilities:

*It shall be the duty of the Department to report annually to the Legislature the costs, if any, which the department has allocated to recreation and fish and wildlife enhancement for each facility of any state water project. The department shall also report to the Legislature any revisions which the Department makes in such allocations.*

*The department shall submit each such cost allocation to the Department of Navigation and Ocean Development [Department of Boating and Waterways], to the Department of Parks and Recreation, and to the Department of Fish and Game. The Department of Navigation and Ocean Development, the Department of Parks and Recreation, and the Department of Fish and Game shall file with the Department of Water Resources their written comments with respect to each such cost allocation, which written comments shall be included in the report required by this section.*

*It shall also be the duty of the department to report to the Legislature on any expenditure of funds for acquiring rights-of-way, easements and property pursuant to Section 346 for recreation development associated with such facilities...*

This appendix constitutes the Department's 1979 report as required by Section 11912 of the California Water Code.

For brevity, "fish and wildlife enhancement" is hereafter referred to as "enhancement". The Department's cost allocations treat recreation and enhancement as one combined purpose of the State Water Project.

### Organization of Report

The costs of State Water Project facilities which the Department has allocated to recreation and enhancement through December 31, 1978, are shown in Table 1, pages 4 and 5, together with expenditures for acquiring rights of way, easements, and property for recreation development associated with such facilities. Table 2, on pages 10 and 11, details the accrued interest charges that are included in the costs shown in Table 1.

The notes to Table 1, on pages 6 through 9, contain an explanation of the Department's procedures for reporting recreation and enhancement costs, a description of how the amounts shown in the Table are calculated, and a reconciliation of significant changes from costs shown in previous reports.

The costs shown in Table 1 do not reflect new or revised allocations for any facility of the State Water Project. The derivation of allocation percentages indicated for joint capital costs of those multipurpose facilities listed in the upper portion of Table 1 have been described in previous reports. Copies of those descriptions are available on request to the Department.

A summary of allocation percentages is shown on page 12, including, illustrative allocation percentages for facilities which have not been reported.

Included at the end of this report, are comments by the Department of Boating and Waterways, the Department of Parks and Recreation and the Department of Fish and Game.

TABLE 1: RECREATION AND ENHANCEMENT  
(Reported to the California Legislature in  
(in

TYPE OF COSTS, PROJECT FACILITY, AND SOURCE OF FUNDS	DISBURSEMENTS,							
	1952- 1965	1966	1967	1968	1969	1970	1971	1972
<b>JOINT CAPITAL COSTS ALLOCATED TO RECREATION AND ENHANCEMENT: (b)</b>								
<u>Frenchman Dam and Lake (78.5%)</u>								
California Water Resources Development Bond Fund	8,958	16,918	65,092	2,258	46	1,291	7,199	1,235
All other funds	2,428,833	6		515	1,192	260	226	1,600
Subtotal	2,437,791	16,924	65,092	2,773	1,239	1,551	7,425	2,835
<u>Antelope Dam and Lake (100.0%)</u>								
California Water Resources Development Bond Fund	776,581	37,254	151,934	19,722	9,831	19,119	24,350	1,605
All other funds	3,741,432	12	2	21,504	207,412	5,003	3,028	2,096
Subtotal	4,518,013	37,266	151,936	41,226	217,243	24,122	27,378	3,701
<u>Grizzly Valley Dam and Lake Davis (94.9%)</u>								
California Water Resources Development Bond Fund	1,435,291	1,699,672	488,205	173,666	23,497	5,707	9,610	1,662
All other funds	221,575	35,823	12,395	13,025	157,200	62,211	738	2,617
Subtotal	1,656,866	1,735,495	500,600	186,691	180,697	67,918	10,348	4,279
<u>San Luis Dam and Reservoir, O'Neill Forebay, and Los Banos Reservoir (3.4%)</u>								
California Water Resources Development Bond Fund	1,383,265	451,555	120,058	17,410	-1,477	6,279	4,574	18,572
All other funds	1,225,443	71,367	4,423	46,003	38,330	418	1,786	5,590
Subtotal	2,608,708	522,922	124,481	63,413	36,853	6,697	6,360	24,162
<u>California Aqueduct, Delta to Dos Amigos P.P. (3.4%)</u>								
California Water Resources Development Bond Fund	1,257,972	1,454,346	1,359,183	244,561	78,302	81,273	16,661	4,555
All other funds	269,888	-9,864	17,041	193,486	165,471	46,368	2,879	6,212
Subtotal	1,527,860	1,444,482	1,376,224	438,047	243,773	127,641	19,540	10,767
<u>Oroville Division (2.9%)</u>								
California Water Resources Development Bond Fund	2,143,265	2,247,395	1,335,209	87,514	26,289	7,453	7,843	4,655
All other funds	2,806,505	18,608	37,774	321,811	87,590	17,840	5,329	10,773
Subtotal	4,949,770	2,266,003	1,372,983	409,325	113,879	25,293	13,172	15,428
<u>Del Valle Dam and Lake Del Valle (48.0%)</u>								
California Water Resources Development Bond Fund	1,165,306	2,923,153	5,529,695	841,108	3,894	19,510	23,848	40,248
All other funds	594,162	2,760	387,848	1,026,256	84,929	45,203	2,700	6,681
Subtotal	1,759,468	2,925,913	5,917,543	1,867,364	88,823	64,713	26,548	46,929
<b>TOTAL</b>	<b>19,458,476</b>	<b>8,949,005</b>	<b>9,508,859</b>	<b>3,008,839</b>	<b>882,507</b>	<b>317,935</b>	<b>110,771</b>	<b>108,101</b>
<b>SPECIFIC COSTS OF ACQUIRING LAND FOR RECREATION DEVELOPMENT: (c)</b>								
<u>Frenchman Dam and Lake</u>								
California Water Resources Development Bond Fund	874	1,504	521	162	28	182	108	
All other funds	49,643			223	74		7	
Subtotal	50,517	1,504	521	385	102	182	115	
<u>Grizzly Valley Dam and Lake Davis</u>								
California Water Resources Development Bond Fund	32,664	19,086	164,798	-13,724	324	625	343	
All other funds	5,246							
Subtotal	37,910	19,086	164,798	-13,724	324	625	343	
<u>Abbey Bridge Dam and Reservoir</u>								
California Water Resources Development Bond Fund	9							
All other funds	9,921							
Subtotal	9,930							
<u>San Luis Dam and Reservoir, O'Neill Forebay, and Los Banos Reservoir</u>								
California Water Resources Development Bond Fund	30,128	188,069	5,863	1,950	1,048	47,113	1,964	116,691
All other funds	189,030	41,216	-1,068	2,681	1,132	-272	470	-42,535
Subtotal	219,158	229,285	4,795	4,631	2,180	46,841	2,434	74,156
<u>California Aqueduct, Delta to Dos Amigos P.P.</u>								
California Water Resources Development Bond Fund	513,947	-86,153	27,620	5,102	14,816	4,491	-9,744	891
All other funds	90,365	-71	-80	3,796	11,337	1,343	1,117	180
Subtotal	604,312	-86,224	27,540	8,898	26,153	5,834	-8,627	1,071
<u>Oroville Division</u>								
California Water Resources Development Bond Fund	802,437	1,038,217	34,027	-1,484	-6,886	4,160	10,135	-509
All other funds	237,759	-3,928	-34,911	80,622	34,685	4,927	4,437	3,347
Subtotal	1,040,196	1,034,289	-884	79,138	27,799	9,087	14,572	2,838
<u>Del Valle Dam and Lake Del Valle</u>								
California Water Resources Development Bond Fund	95,466	8,581	489,259	-74,659	-1,490	1,629	600	39
All other funds	30,029			-72,983	960	190	159	758
Subtotal	125,495	8,581	489,259	-147,642	-530	1,819	759	797
<u>California Aqueduct, Dos Amigos P.P. to Termini</u>								
California Water Resources Development Bond Fund	69,332	93,935	168,873	65,562	53,579	470,768	-745	-161,657
All other funds	16,969			5,225	6,171	1,638	2,960	-145,563
Subtotal	86,301	93,935	168,873	70,787	59,750	472,406	2,215	-16,094
<u>Castaic Dam and Lake</u>								
California Water Resources Development Bond Fund	428,514	492,805	915,109	-18,073	-44,600	22,812	17,483	32,058
All other funds	10,510		-75	44,752	7,038	1,028	7,810	23,411
Subtotal	439,024	492,805	915,034	26,679	-37,562	23,840	25,293	55,469
<u>Cedar Springs Dam and Silverwood Lake</u>								
California Water Resources Development Bond Fund	109,323	92,231	64,091	43,779	32,470	36,168	19,633	24,038
All other funds	41,123			-211,153	322,523	27,054	-12,302	24,328
Subtotal	150,446	92,231	64,091	-167,374	354,993	63,222	7,331	48,366
<u>Perris Dam and Lake Perris</u>								
California Water Resources Development Bond Fund	352,496	-13,884	20,994	492,881	-1,943	4,195	2,600	-1,300
All other funds	234,997			3,721,737	-333,922			
Subtotal	587,493	-13,884	20,994	4,214,618	-335,865	4,195	2,600	-1,300
<b>TOTAL</b>	<b>3,350,782</b>	<b>1,071,608</b>	<b>1,855,021</b>	<b>4,076,396</b>	<b>97,344</b>	<b>628,051</b>	<b>47,035</b>	<b>165,303</b>
<b>TOTAL RECREATION AND ENHANCEMENT COSTS</b>								
California Water Resources Development Bond Fund	10,605,828	10,664,684	10,940,531	1,887,735	187,728	732,775	136,462	82,783
All other Funds	12,203,430	155,929	423,349	5,197,500	792,123	213,211	21,344	190,621
<b>GRAND TOTAL</b>	<b>22,809,258</b>	<b>10,820,613</b>	<b>11,363,880</b>	<b>7,085,235</b>	<b>979,851</b>	<b>945,986</b>	<b>157,806</b>	<b>273,404</b>

**COSTS OF THE STATE WATER PROJECT (a  
Response to Water Code Section 11912)  
dollars)**

BY CALENDAR YEAR						TOTAL DISBURSE- MENTS THRU 1978	ADD: INTEREST ACCRUALS THRU 1978	TOTAL COSTS REPORTED THRU 1978	COMPARISON WITH COSTS PREVIOUSLY REPORTED	
1973	1974	1975	1976	1977	1978				THRU 1977	INCREASE
						102,997	1,803	104,800	104,800	
961	1,255	459	1,261	1,182	11,116	2,448,867		2,448,867	2,438,287	10,580
961	1,255	459	1,261	1,182	11,116	2,551,864	1,803	2,553,667	2,543,087	10,580
						1,040,396	98,648	1,139,044	1,134,824	4,220
1,394	1,924	694	2,405	2,247	18,732	4,007,885		4,007,885	3,950,404	57,481
1,394	1,924	694	2,405	2,247	18,732	5,048,281	98,648	5,146,929	5,085,228	61,701
						3,837,310	400,616	4,237,926	4,238,538	-612
24,130	45,666	84,754	21,711	8,589	76,205	766,639		766,639	691,423	75,216
24,130	45,666	84,754	21,711	8,589	76,205	4,603,949	400,616	5,004,565	4,929,961	74,604
						1,998,995	280,899	2,279,894	2,385,376	-105,482
-267	-376	-253	-165	-124	-56	1,441,122		1,441,122	1,447,576	-6,454
9,337	12,653	11,780	5,642	6,386	1,964	3,440,117	280,899	3,721,016	3,832,952	-111,936
9,070	12,277	11,527	5,477	6,262	1,908					
						4,497,100	699,169	5,196,269	5,208,364	-12,095
7,864	12,382	21,668	73,967	-20,111	19,817	807,068		807,068	817,047	-9,979
7,842	12,393	21,688	74,119	-20,025	19,817	5,304,168	699,169	6,003,337	6,025,411	-22,074
						5,859,478	1,756,896	7,616,374	7,619,946	-3,572
-37	-42	-18	-15	-15	-18	4,019,636		4,019,636	3,934,911	84,725
23,722	26,388	28,876	29,717	517,290	87,413	9,879,114	1,756,896	11,636,010	11,554,857	81,153
23,685	26,346	28,858	29,702	517,275	87,395					
						10,546,762	4,270,740	14,817,502	14,830,484	-12,982
9,640	116,010	7,997	11,240	4,070	8,989	2,308,485		2,308,485	2,306,626	1,859
9,640	116,010	7,997	11,240	4,070	8,989	12,855,247	4,270,740	17,125,987	17,137,110	-11,123
76,722	215,871	155,977	145,915	519,600	224,162	43,682,740	7,508,771	51,191,511	51,108,606	82,905
						3,379	134	3,513	3,513	
						49,947		49,947	49,947	
						53,326	134	53,460	53,460	
						204,116	15,099	219,215	219,215	
						5,246		5,246	5,246	
						209,362	15,099	224,461	224,461	
						9		9	9	
						9,921		9,921	9,921	
						9,930		9,930	9,930	
						392,826	50,895	443,721	421,763	21,958
19,103	118	508	692	728	916	212,719		212,719	209,584	3,135
19,103	118	508	692	728	916	605,545	50,895	656,440	631,347	25,093
						470,970	135,633	606,603	606,603	
83	113	349	887	617	738	110,774		110,774	109,775	999
83	113	349	887	617	738	581,744	135,633	717,377	716,378	999
						1,879,767	690,370	2,570,137	2,574,204	-4,067
-74	-87	-53	-45	-44	-27	332,435		332,435	331,322	1,113
1,452	1,203	1,751	1,879	1,637	1,077	2,212,202	690,370	2,902,572	2,905,526	-2,954
1,378	1,116	-1,804	1,834	1,593	1,050					
						519,425	296,496	815,921	817,232	-1,311
2,017	820	403	44	88	796	-36,719		-36,719	-37,515	796
2,017	820	403	44	88	796	482,706	296,496	779,202	779,717	-515
						750,681	373,195	1,123,876	1,120,900	2,976
-8,966	17,862	63,587	149	562	5,646	301,610		301,610	244,644	56,966
35,278	17,862	63,587	149	562	5,646	1,052,291	373,195	1,425,486	1,365,544	59,942
26,312	17,862	63,587	149	562	5,646					
						1,845,534	1,097,126	2,942,660	2,930,711	11,949
-233	-232	-109	10,833	18,583	4,349	219,242		219,242	214,004	5,238
17,485	1,127	72,391	10,833	18,583	4,349	2,064,776	1,097,126	3,161,902	3,144,715	17,187
17,252	895	72,282	10,833	18,583	4,349					
						421,733	264,440	686,173	666,100	20,073
12,236	28,346	9,801	5,739	2,522	2,177	252,394		252,394	249,683	2,711
12,236	28,346	9,801	5,739	2,522	2,177	674,127	264,440	938,567	915,783	22,784
						856,039	591,445	1,447,484	1,416,477	31,007
						3,621,642		3,621,642	3,621,642	
	-1,170					4,477,681	591,445	5,069,126	5,038,119	31,007
	-1,170									
78,381	48,100	145,126	20,178	24,693	15,672	12,423,690	3,514,833	15,938,523	15,784,980	153,543
						35,227,517	11,023,604	46,251,121	46,299,059	-47,938
-9,599	-726	-413	-73	-97	-101	20,878,913		20,878,913	20,594,527	284,386
164,702	264,697	301,516	166,166	544,390	239,935					
155,103	263,971	301,103	166,093	544,293	239,834	56,106,430	11,023,604 <sup>d</sup>	67,130,034 <sup>e</sup>	66,893,586 <sup>f</sup>	236,448 <sup>g</sup>

a) Recreation and enhancement costs herein refer only to those capital costs of multipurpose facilities of the State Water Project that are allocated to recreation and enhancement and/or of lands that are acquired for associated recreation development. These costs are budgeted by the Department of Water Resources from funds that are available to the

Department for financing construction costs of the Project.

The remaining recreation and enhancement costs of types not reported herein are budgeted by several state departments and are financed by appropriations from a variety of funds. These costs and appropriations are summarized below:

Type of Recreation and Enhancement Costs Not Reported in Table 1	General Fund Appropriations, unless otherwise noted		
	1979-80 <sup>(a)</sup>	1978-79 <sup>(b)</sup>	Total 1962-63 thru 1979-80 <sup>(c)</sup>
Allocated operation, maintenance, and replacement costs of multipurpose facilities	\$2,025,000	\$1,896,000	\$14,568,000
Capital costs of recreation developments other than for land acquisition	1,327,000 <sup>(d)</sup>	3,855,000 <sup>(d)</sup>	83,944,000 <sup>(e)</sup>
Operation, maintenance, and replacement costs of recreation developments	5,124,000	4,867,000	26,635,000
<p>a) <i>Proposed amounts in Governor's budget.</i>  b) <i>1978-79 budgeted amount.</i>  c) <i>Actual thru 1977-78 plus a) and b).</i>  d) <i>Amounts from State recreation bond funds and other State and Federal recreation funds.</i>  e) <i>Includes \$1,236,000 from the Harbors and Watercraft Revolving Fund, and \$200,000 directly from the Highway Users Tax Fund.</i></p>			

Allocated operation, maintenance, and replacement costs of multipurpose facilities are budgeted by the Department of Water Resources and have been financed by annual appropriations from the General Fund. Capital costs (other than land acquisition costs) and operation, maintenance, and replacement costs of recreation develop-

ments are budgeted by the Department of Parks and Recreation -- except that the costs of boating facilities are budgeted by the Department of Boating and Waterways. Costs of enhancement developments are budgeted by the Department of Fish and Game.

b) Joint capital costs allocated to recreation and enhancement are based on the Department's derivation, for each multipurpose facility, of the percentages of the total joint costs that are attributable to each included purpose. These derivations are based on the application of conventional cost allocation methods which weight the estimated costs to be incurred and benefits to be realized during a 50-year period of analysis. Allocated

costs reflect the application of these percentages to the actual capital costs incurred for the facility as accounted by the Department.

Costs allocated to recreation and enhancement generally are first reported in the year following the year construction of a facility is complete. However, these allocated costs may be subsequently changed



due to either the adjustment of accounted capital costs or the revision of allocation percentages.

The allocation percentages of a facility may be revised if it can be formally demonstrated that such revision is warranted due to substantial changes in the supporting factors to the previous derivation. Such demonstration could include the finding that (1) funds are not forthcoming for financing the costs of planned recreation developments, with resultant decreases in projected recreation benefits and costs, (2) a change

in cost allocation method would produce more equitable results or (3) actual visitor days of use had substantially increased or decreased from the previous projections resulting in a change in projected benefits.

The tentative schedule shown below indicates the years when allocated costs of each State Water Project facility will be first reported and when the factors which support the derivation of allocation percentages will be periodically reviewed for substantial changes.

#### TENTATIVE SCHEDULE FOR REPORTING AND REVIEW OF COST ALLOCATIONS

Project Facility	Year Allocation to be Initially Reported	Year Supporting Factors to be Reviewed For Substantial Changes										
		80	81	82	83	84	85	86	87	88	89	90(a)
Frenchman Lake	1965		x					x				
Antelope Lake	1966		x					x				
Lake Davis	1968	x					x					x
Abbey Bridge Reservoir	(b)											
Dixie Refuge Reservoir	(b)											
Oroville Division (d)	1971				x					x		
Delta Facilities	1992(c)											
South Bay Aqueduct (Lake Del Valle)	1973		x					x				
California Aqueduct, Project Conservation Facilities: (d)	1970											
Bethany Reservoir				x					x			
San Luis Reservoir				x					x			
O'Neill Forebay				x					x			
Los Banos Reservoir				x					x			
Aqueduct Developments				x					x			
California Aqueduct, Project Transportation Facilities:	1980											
Pyramid Lake							x					x
Castaic Lake							x					x
Silverwood Lake							x					x
Lake Perris							x					x
Aqueduct Developments							x					x

a) Reviews would continue in the pattern indicated.

b) Delayed indefinitely.

c) Construction schedule tentative and subject to revision.

d) Will include an evaluation of an allocation of conservation facility costs to recreation and other purposes in Sacramento-San Joaquin Delta.

c) Specific costs of acquiring land for recreation developments are incurred by the Department under the authority of California Water Code Section 346. The Department purchases recreation lands concurrently with lands needed for multipurpose

facilities in order to decrease the total land costs of the Project and to acquire property in an orderly manner. Recreation lands acquired for each project facility through December 31, 1978, are summarized below.

SUMMARY OF RECREATION LAND ACQUISITIONS<sup>(a)</sup>  
(in acres)  
(metric conversion: acres x 0.40469 = hectares)

Project Facility	Acquired <sup>(b)</sup>	To be Acquired	Federal Lands <sup>(c)</sup>	Total
Frenchman Lake	719	0	0	719
Antelope Lake	1,342	0	0	1,342
Lake Davis	733	0	0	733
San Luis Reservoir and O'Neill Forebay	2,518	0	0	2,518
Oroville Division	2,599	0	212	2,811
Lake Del Valle	1,206	0	0	1,206
California Aqueduct (excluding reservoirs)	1,760	(d)	0	1,760
Castaic Lake	1,915	0	577	2,492
Silverwood Lake	304	0	2,919	3,223
Lake Perris	4,343	123	0	4,466

a) Includes recreation lands for only those project facilities with an established recreation land use and acquisition plan.

b) Costs of acquiring these lands are shown in Table 1.

c) These lands are presently being leased from the Federal Government at a nominal cost to the State.

d) Additional land needs are to be identified by future studies.

The Department reports the annual expenditure of project funds for acquiring all recreation land in the year following the expenditure. The costs of such lands generally are established when acquired and are not affected by allocation percentages for the associated multipurpose project facility. However, the reported costs of certain lands may be subsequently revised due to receipt of certain revenues (such as federal grants and miscellaneous income from right-of-way sales) or due to modification of the recreation land use plan.

The amounts to be reported in future years will include credits for any reduction in previously reported costs, together with appropriate interest income thereon. If recreation land is sold or if grants are received,

the amount of the receipt will be reported as a negative cost of the facility the year received. If recreation land is reclassified as multipurpose project land, the original purchase price, together with appropriate interest income thereon, will be reported as a negative expenditure for specific land costs and an appropriate amount will be added to the joint capital costs allocated to recreation and enhancement for the associated facility.

The costs of acquiring recreation land include the salaries of department personnel who are engaged in recreation land acquisition activities, together with indirect costs that are distributed on the basis of direct salaries.

d) Interest accruals are calculated as shown in Table 2. Interest charges are accrued only on the portion of annual disbursements financed by the California Water Resources Development Bond Fund (proceeds from the sale of Burns-Porter Bonds) and cease when such disbursements, together with cumulative interest accruals thereon, have been reimbursed. Calculations are based on the weighted average interest costs of Burns-Porter Bonds sold to date (4.378 percent for the \$1,570,000,000 in bonds outstanding as of December 31, 1978). This rate differs from the "project interest rate" under the Project's water supply contracts in that interest costs on revenue bond sales are not included.

As of December 31, 1978, a total of \$65,000,000 had been reimbursed to the Department under the continuing annual \$5,000,000 appropriation (thru fiscal year 1978-79) of State tideland oil and gas tax revenues, authorized by California Statutes of 1966, First Extraordinary Session, Chapter 27. With no allowance for future interest, reimbursement of the increased amount of costs reported herein would cover \$2,130,034 of the appropriation for 1979-80.

The initial cost allocation for the California Aqueduct is scheduled to be reported in 1980 and is expected to result in additional capital costs allocated to recreation and enhancement in excess of \$200,000,000.

e) The Department requests that this total increased amount of reported costs be approved by the Legislature.

f) Costs previously reported are as shown in Table 1 (pages 6 and 7) of Appendix D to Bulletin 132-78. Such costs were approved by California Statutes of 1978, Chapter 516, and were based on the Department's accounting records as of December 31, 1977. The average interest cost on Burns-Porter Bond sales was then 4.378 percent.

g) Reasons for cost increase are outlined below:

- ° Additional disbursements during 1978 for recreation lands and for joint capital costs allocated to recreation and enhancement. . . . . \$240,000
- ° Additional accrued interest on recreation costs not yet reimbursed by the continuing \$5,000,000 annual appropriation due to changes in bond fund expenditures and an additional year of accrual (1978) . . . . . \$ 9,000
- ° Adjustment in costs of Frenchman Dam and Lake, Grizzly Valley Dam and Lake Davis, and the Oroville Division due to ground water storage costs being deleted from allocated recreation costs . -\$ 5,000
- ° Adjustment in costs of Antelope Dam and Lake resulting from redetermination of costs associated with specific recreation land. . . . . \$ 43,000
- ° Adjustment in allocated costs of San Luis Dam and Reservoir, and O'Neill Forebay due to sale of excess land to the Department of Fish and Game . . . . . -\$100,000
- ° Adjustment in costs of Del Valle Dam and Lake Del Valle due to cost of water supply studies being deleted from allocated recreation capital costs. . . . . -\$ 7,000
- ° Adjustment in costs of California Aqueduct, Dos Amigos Pumping Plant to termini resulting from redetermination of costs associated with specific recreation land. . . . . \$ 51,000
- ° Adjustment in costs of Cedar Springs Dam and Silverwood Lake resulting from increase in specific recreation land acreage. . . . . \$ 4,000
- ° Net retroactive accounting adjustments on costs reported prior to 1978 . . . . . \$ 1,000

TOTAL INCREASE	\$236,000
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TABLE 2: CALCULATION OF INTEREST ACCRUALS ON CALIFORNIA

(in dollars)

YEAR	ITEM	JOINT CAPITAL COSTS ALLOCATED TO RECREATION AND ENHANCEMENT							
		Frenchman Dam and Lake	Antelope Dam and Lake	Grizzly Valley Dam and Lake Davis	San Luis Dam and Reservoir, O'Neill Forebay, and Los Banos Reservoir	California Aqueduct Delta to Dos Amigos P.P.	Oroville Division	Del Valle Dam and Lake Del Valle	Total
1952-74	a. Disbursements								
	1. Calif. Water Resources Development Bond Fund	102,997	1,040,396	3,837,310	1,999,593	4,496,842	5,859,544	10,546,762	27,883,444
	2. All other funds	2,434,849	3,983,807	575,380	1,415,350	711,727	3,356,340	2,276,189	14,753,642
	b. Reimbursement 1967 thru 1974 applied to:								
	1. Calif. Water Resources Development Bond Fund	104,800	1,139,044	4,237,926	2,280,492	5,196,011	7,616,377	7,392,703	27,967,353
	2. All other funds	2,434,849	3,983,807	575,380	1,415,350	711,727	3,356,340		12,477,453
	c. Interest accrued to end of 1974	1,803	98,648	400,616	280,899	699,169	1,756,895	4,007,116	7,245,146
1975	d. Beginning-of-year balance to be reimbursed:								
	1. Calif. Water Resources Development Bond Fund						62	7,161,175	7,161,237
	2. All other funds							2,276,189	2,276,189
	e. Disbursements during year:								
	1. Calif. Water Resources Development Bond Fund				-253	20	-18		-251
	2. All other funds	459	694	84,754	11,780	21,668	28,876	7,997	156,228
	f. Reimbursements during year applied to:								
	1. Calif. Water Resources Development Bond Fund				-253	20	44	4,851,987	4,851,798
	2. All other funds	459	694	84,754	11,780	21,668	28,876		148,231
	g. End-of-year balance, without interest for:								
	1. Calif. Water Resources Development Bond Fund							2,309,188	2,309,188
	2. All other funds							2,284,186	2,284,186
	h. Interest accrual on average balance of d(1) & g(1)						1	207,306	207,307
1976	i. Beginning-of-year balance to be reimbursed:								
	1. Calif. Water Resources Development Bond Fund						1	2,516,494	2,516,495
	2. All other funds							2,284,186	2,284,186
	j. Disbursements during year:								
	1. Calif. Water Resources Development Bond Fund				-165	152	-15		-28
	2. All other funds	1,261	2,405	21,711	5,642	73,967	29,717	11,240	145,943
	k. Reimbursements during year applied to:								
	1. Calif. Water Resources Development Bond Fund				-165	152	-14	2,516,494	2,516,467
	2. All other funds	1,261	2,405	21,711	5,642	73,967	29,717	2,295,426	2,430,129
	l. End-of-year balance, without interest for:								
	1. Calif. Water Resources Development Bond Fund								
	2. All other funds								
	m. Interest accrual on average balance of i(1) & l(1)							55,086	55,086
1977	n. Beginning-of-year balance to be reimbursed:								
	1. Calif. Water Resources Development Bond Fund							55,086	55,086
	2. All other funds								
	o. Disbursements during year:								
	1. Calif. Water Resources Development Bond Fund				-124	86	-15		-53
	2. All other funds	1,182	2,247	8,589	6,386	-20,111	517,290	4,070	519,653
	p. Reimbursements during year applied to:								
	1. Calif. Water Resources Development Bond Fund				-124	86	-15	55,086	55,033
	2. All other funds	1,182	2,247	8,589	6,386	-20,111	517,290	4,070	519,653
	q. End-of-year balance, without interest for:								
	1. Calif. Water Resources Development Bond Fund								
	2. All other funds								
	r. Interest accrual on average balance of n(1) & q(1)							1,206	1,206
1978	s. Beginning-of-year balance to be reimbursed:								
	1. Calif. Water Resources Development Bond Fund							1,206	1,206
	2. All other funds								
	t. Disbursements during year:								
	1. Calif. Water Resources Development Bond Fund				-56		-18		-74
	2. All other funds	11,116	18,732	76,205	1,964	19,817	87,413	8,989	224,236
	u. Reimbursements during year applied to:								
	1. Calif. Water Resources Development Bond Fund				-56		-18	1,206	1,132
	2. All other funds	11,116	18,732	76,205	1,964	19,817	87,413	8,989	224,236
	v. End-of-year balance, without interest for:								
	1. Calif. Water Resources Development Bond Fund								
	2. All other funds								
	w. Interest accrual on average balance of s(1) & v(1)							26	26
SUMMARY: 1952 thru 1978	x. Beginning-of-1979 balance to be reimbursed:								
	1. Calif. Water Resources Development Bond Fund							26	26
	2. All other funds								
	Total							26	26
	y. Disbursements, 1952 thru 1978								
	1. Calif. Water Resources Development Bond Fund	102,997	1,040,396	3,837,310	1,998,995	4,497,100	5,859,478	10,546,762	27,883,038
	2. All other funds	2,448,867	4,007,885	766,639	1,441,122	807,068	4,019,636	2,308,485	15,799,702
	Total	2,551,864	5,048,281	4,603,949	3,440,117	5,304,168	9,879,114	12,855,247	43,682,740
	z. Reimbursements applied thru 1978 to:								
	1. Calif. Water Resources Development Bond Fund	104,800	1,139,044	4,237,926	2,279,894	5,196,269	7,616,374	14,817,476	35,391,783
	2. All other funds	2,448,867	4,007,885	766,639	1,441,122	807,068	4,019,636	2,308,485	15,799,702
	Total	2,553,667	5,146,929	5,004,565	3,721,016	6,003,337	11,636,010	17,125,961	51,191,485
	TOTAL INTEREST ACCRUALS, 1952 THRU 1978	1,803	98,648	400,616	280,899	699,169	1,756,896	4,270,740	7,508,771

# WATER RESOURCES DEVELOPMENT BOND FUND DISBURSEMENTS

@ 4.378% per annum)

COSTS OF ACQUIRING LAND FOR RECREATION DEVELOPMENT												GRAND TOTAL
Frenchman Dam and Lake	Grizzly Valley Dam and Lake Davis	Abbey Bridge Dam and Reservoir	San Luis Dam and Reservoir, O'Neill Forebay, and Los Banos Reservoir	California Aqueduct Delta to Dos Amigos P. P.	Oroville Division	Del Valle Dam and Lake Del Valle	California Aqueduct, Dos Amigos P. P. to Termini	Castaic Dam and Lake	Cedar Springs Dam and Silverwood Lake	Perris Dam and Lake Perris	Total	
3,379 49,947	204,116 5,246	9 9,921	392,826 209,875	470,970 108,183	1,879,936 329,593	519,425 -38,050	750,681 231,666	1,845,643 113,086	421,733 232,155	856,039 3,621,642	7,344,757 4,873,264	35,228,201 19,626,906
3,513 49,947	219,215 5,246	9 9,921	443,721 209,875	606,603 108,183	2,569,368 329,593						3,842,429 712,765	31,809,782 13,190,218
134	15,099		50,895	135,633	690,350	215,107	258,323	774,915	168,743	389,573	2,698,772	9,943,918
					918	734,532 -38,050	1,009,004 231,666	2,620,558 113,086	590,476 232,155	1,245,612 3,621,642	6,201,100 4,160,499	13,362,337 6,436,688
			508	349	-53 -1,751	403	63,587	-109 72,391	9,801		-162 145,288	-413 301,516
			508	349	865 -1,751						865 -894	4,852,663 147,337
						734,532 -37,647	1,009,004 295,253	2,620,449 185,477	590,476 241,956	1,245,612 3,621,642	6,200,073 4,306,681	8,509,261 6,590,867
					20	32,158	44,174	114,726	25,851	54,533	271,462	478,769
					20	766,690 -37,647	1,053,178 295,253	2,735,175 185,477	616,327 241,956	1,300,145 3,621,642	6,471,535 4,306,681	8,988,030 6,590,867
			692	887	-45 1,879	44	149	10,833	5,739		-45 20,223	-73 166,166
			692	887	-25 1,879	49,971					49,946 3,458	2,566,413 2,433,587
						716,719 -37,603	1,053,178 295,402	2,735,175 196,310	616,327 247,695	1,300,145 3,621,642	6,421,544 4,323,446	6,421,544 4,323,446
						32,472	46,108	119,746	26,983	56,920	282,229	337,315
						749,191 -37,603	1,099,286 295,402	2,854,921 196,310	643,310 247,695	1,357,065 3,621,642	6,703,773 4,323,446	6,758,859 4,323,446
			728	617	-44 1,637	88	562	18,583	2,522		-44 24,737	-97 544,390
			728	617	-44 1,637	749,191 -37,515	1,099,286 295,964	2,315,450			4,163,883 261,431	4,218,916 781,084
								539,471 214,893	643,310 250,217	1,357,065 3,621,642	2,539,846 4,086,752	2,539,846 4,086,752
						16,400	24,063	74,303	28,164	59,412	202,342	203,548
						16,400	24,063	613,774 214,893	671,474 250,217	1,416,477 3,621,642	2,742,188 4,086,752	2,743,394 4,086,752
			916	738	-27 1,077	796	5,646	4,349	2,177		-27 15,699	-101 239,935
			916	738	-27 1,077	16,400 796	24,063 5,646	613,774 219,242	671,474 252,394	1,416,477 1,551,662	2,742,161 2,032,471	2,743,293 2,256,707
										2,069,980	2,069,980	2,069,980
						359	527	13,436	14,699	31,007	60,028	60,054
						359	527	13,436	14,699	31,007	60,028	60,054
						359	527	13,436	14,699	2,069,980	2,069,980	2,069,980
						359	527	13,436	14,699	2,100,987	2,130,008	2,130,034
3,379 49,947 53,326	204,116 5,246 209,362	9 9,921 9,930	392,826 212,719 605,545	470,970 110,774 581,744	1,879,767 332,435 2,212,202	519,425 -36,719 482,706	750,681 301,610 1,052,291	1,845,534 219,242 2,064,776	421,733 252,394 674,127	856,039 3,621,642 4,477,681	7,344,479 5,079,211 12,423,690	35,227,517 20,878,913 56,106,430
3,513 49,947 53,460	219,215 5,246 224,461	9 9,921 9,930	443,721 212,719 656,440	606,603 110,774 717,377	2,570,137 332,435 2,902,572	815,562 -36,719 778,843	1,123,349 301,610 1,424,959	2,929,224 219,242 3,148,466	671,474 252,394 923,868	1,416,477 1,551,662 2,968,139	10,799,284 3,009,231 13,808,515	46,191,067 18,808,933 65,000,000
134	15,099		50,895	135,633	690,370	296,496	373,195	1,097,126	264,440	591,445	3,514,833	11,023,604

## Summary of Allocation Percentages

The Department annually determines water contractor charges for the State Water Project based on allocations of costs among purposes of those facilities which are jointly used for more than one purpose. These allocations utilize

the percentages previously reported to and approved by the Legislature, as well as preliminary estimates for facilities which have not been reported. These percentages are summarized in the table below.

### SUMMARY OF COST ALLOCATION PERCENTAGES

(in percent of joint costs of the respective facilities)

Facilities of the State Water Project	Reimbursable Purposes	Nonreimbursable Purposes <sup>(a)</sup>		Total
	Water Supply and Power Generation	Flood Control	Recreation and Fish and Wildlife Enhancement	
<u>Capital Costs of Features Jointly Used</u>				
<u>Project Conservation Facilities</u>				
Frenchman Dam and Lake <sup>(b)</sup>	21.5	0	78.5	100.0
Antelope Dam and Lake <sup>(b)</sup>	0	0	100.0	100.0
Grizzly Valley Dam and Lake Davis <sup>(b)</sup>	5.1	0	94.9	100.0
Oroville Division <sup>(b)(d)</sup>	97.1	0	2.9	100.0
California Aqueduct, Delta to Dos Amigos Pumping Plant <sup>(b)</sup>	96.6	0	3.4	100.0
Delta Facilities <sup>(c)</sup>	86.0	0	14.0	100.0
<u>Project Transportation Facilities</u>				
California Aqueduct:				
California Aqueduct excluding Coastal Branch <sup>(c)(e)</sup>	97.0	0	3.0	100.0
Coastal Branch	100.0	0	0	100.0
South Bay Aqueduct:				
Del Valle Dam and Lake Del Valle <sup>(b)</sup>	25.2	26.8	48.0	100.0
Remainder of South Bay Aqueduct	100.0	0	0	100.0
North Bay Aqueduct <sup>(c)</sup>	100.0	0	0	100.0
 a) Additional purposes may be identified after project formulation in the Delta is completed. b) Final percentages, subject to periodic review as discussed on Page 7. c) Illustrative percentages only, assumed for current project financial and repayment analyses. d) Percentages are applicable to Capital Costs of Features Jointly Used, minus Federal Flood Control Payments. e) A final allocation of facilities from Delta to Dos Amigos Pumping Plant has been made. 3.4 percent of these costs are allocated to recreation and fish and wildlife enhancement and are reported for reimbursement under AB 12. However, until the remainder of the aqueduct is finally reported the percentage for billing purposes is as shown.				
NOTE: Percentages shown are those applicable to the costs of the facility as accounted by the State, or, in the case of federal-state joint-use facilities (San Luis and Delta Facilities) only the State's share of the total cost.				

The facilities which remain to be reported are two reservoirs in the Upper Feather River area, the Delta Facilities, and the transportation features of the California Aqueduct. Upon completion of project formulation for the Delta

Facilities, costs may be allocated to purposes other than those shown in the above table. The allocation for the Delta Facilities is scheduled to be reported in 1992 as shown in the table on page 7.

COMMENTS  
BY  
THE DEPARTMENT OF BOATING AND WATERWAYS,  
THE DEPARTMENT OF PARKS AND RECREATION,  
AND THE DEPARTMENT OF FISH AND GAME

# Memorandum

To : Ronald B. Robie  
Director  
Department of Water Resources  
1416 9th Street  
Sacramento, Ca 95814

Date : APR 3 1979

Subject: Annual Report to the  
Legislature, State  
Water Project Cost  
Allocation to  
Recreation and Fish  
and Wildlife Enhance-  
ment

From : ~~Department of Navigation and Ocean Development~~  
Boating and Waterways

In accordance with California Code Section 11912, the Department of Boating and Waterways has reviewed the subject report and we have no comment.

  
MARTY MERCADO  
Director



# Memorandum

Date : APR 30 1979

To : Honorable Ronald B. Robie, Director  
Department of Water Resources

From : Department of Parks and Recreation

Subject: Annual Report - Costs of Recreation  
and Fish and Wildlife Enhancement

The California Department of Parks and Recreation has reviewed the draft Appendix D dated April 1979 of the Department of Water Resources report on the annual Cost of Recreation and Fish and Wildlife Enhancement associated with the State Water Project.

Thank you for the opportunity to review this report.

  
Russell W. Cahill  
Director

# Memorandum

To : Mr. Ronald B. Robie, Director  
Department of Water Resources

Date: April 11, 1979

From : Department of Fish and Game

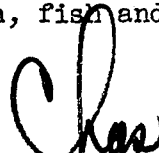
Subject: Water Project - State of California, Department of Water Resources -  
State Water Project - 1979 Cost Allocation to Recreation, Fish and  
Wildlife Enhancement

Pursuant to Water Code, Section 11912, as amended by California Statutes of 1966, Chapter 27, you requested our written comments on State Water Project joint costs allocated to recreation, fish and wildlife enhancement, as reported in the review draft of Appendix D to Bulletin No. 132-79.

Appendix D presents new costs allocated to recreation, fish and wildlife enhancement of \$236,000. This amount is due to \$153,543 increased disbursement in recreation lands and \$82,905 for joint capital costs allocated to recreation enhancement. This includes \$8,500 of accrued interest to recreation, fish and wildlife enhancement added for 1978.

The Department of Fish and Game has reviewed the 1979 State Water Project draft report, Appendix D and finds it consistent with previous reports. The department, therefore, supports the cost allocation and recommends the addition of \$236,448 for recreation, fish and wildlife enhancement.

The department does, however, have two related concerns with the cost allocation procedure. The first is the recreation, fish and wildlife enhancement unit values used in the cost allocation are extremely low in relation to values generally accepted by the resource economic community. These values significantly influence the cost allocation process. The second is the extension of the cost allocation schedule (page 7) by another year. This extension further delays the time frame for reviewing the enhancement values used in the cost allocation which continues to aggravate the disparity between values used and current acceptable values. Our support for the additional dollar allocation to recreation, fish and wildlife enhancement should not be construed as concurrence with the recreation, fish and wildlife unit values used.

  
Director

DEPARTMENT OF WATER RESOURCES  
RESPONSE TO COMMENTS  
BY THE DEPARTMENT OF FISH AND GAME



## Memorandum

to : Charles Fullerton, Director  
Department of Fish and Game  
1416 Ninth Street, 12th Floor  
Sacramento, CA 95814

Date : APR 30 1979

File No.:

Subject: Cost Allocations to  
Recreation and Fish and Wildlife  
Enhancement, State Water Project

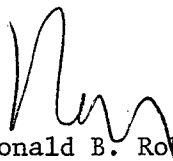
from : Department of Water Resources



Your memorandum, dated April 11, 1979, on Bulletin 132-79, Appendix D commented on the Department's cost allocation procedure concerning: (1) the magnitude of recreation and fish and wildlife enhancement unit values used in the cost allocations for facilities of the State Water Project, and (2) the extension of the schedule for reporting and reviewing cost allocations.

The feasibility of escalating recreation and enhancement unit values used in the derivation of project purpose allocation percentages is currently being studied by the Department. If it is determined feasible, we anticipate using escalated recreation and enhancement unit values in the initial cost allocation for the California Aqueduct, Dos Amigos Pumping Plant to termini, to be reported in 1980.

The extension of the schedule which was necessitated by the need to consider escalating unit values will not affect the allocation. Each cost allocation is reviewed periodically, after it is initially reported to the Legislature, and the cost allocations are revised, if necessary, to update such items as the project interest rate and recreation use. Recreation and enhancement unit values could be similarly updated if it is determined to be feasible.



Ronald B. Robie  
Director  
8-485-6582



# CONVERSION FACTORS

## English to Metric System of Measurement

Quantity	English Unit	Multiply by*	To get metric equivalent
Length	Inches (in)	25.4	millimetres (mm)
		.0254	metres (m)
	feet (ft)	.3048	metres (m)
	miles (mi)	1.6093	kilometres (km)
Area	square inches (in <sup>2</sup> )	6.4516 x 10 <sup>4</sup>	square metres (m <sup>2</sup> )
	square feet (ft <sup>2</sup> )	.092903	square metres (m <sup>2</sup> )
	acres	4046.9	square metres (m <sup>2</sup> )
		.40469	hectares (ha)
		.40469	square hectometres (hm <sup>2</sup> )
		.0040469	square kilometres (km <sup>2</sup> )
	square miles (mi <sup>2</sup> )	2.590	square kilometres (km <sup>2</sup> )
Volume	gallons. (gal)	3.7854	litres (l)
		.0037854	cubic metres (m <sup>3</sup> )
	million gallons (10 <sup>6</sup> gal)	3785.4	cubic metres (m <sup>3</sup> )
	cubic feet (ft <sup>3</sup> )	.028317	cubic metres (m <sup>3</sup> )
	cubic yards (yd <sup>3</sup> )	.76455	cubic metres (m <sup>3</sup> )
	acre-feet (ac-ft)	1233.5	cubic metres (m <sup>3</sup> )
		1.2335	cubic dekametres (dm <sup>3</sup> )
		.0012335	cubic hectometres (hm <sup>3</sup> )
Volume Time (Flow)		1.233 x 10 <sup>-6</sup>	cubic kilometres (km <sup>3</sup> )
	cubic feet per sec (ft <sup>3</sup> /s)	28.317	litres per second (l/s)
		.028317	cubic metres per sec (m <sup>3</sup> /s)
	gallons per minute (gal/min)	.06309	litres per second (l/s)
		6.309 x 10 <sup>-5</sup>	cubic metres per sec (m <sup>3</sup> /s)
Water Usage	million gallons per day (mgd)	.043813	cubic metres per sec (m <sup>3</sup> /s)
	acre-feet per acre	.3048	cubic metres per square metre (m <sup>3</sup> /m <sup>2</sup> )
Mass	pounds (lb)	.45359	kilograms (kg)
	tons (short, 2,000 lb)	.90718	tonne (t)
		907.18	kilograms (kg)
Power	horsepower (hp)	0.7460	kilowatts (kW)
Pressure	pounds per square inch (psi)	6894.8	pascal (Pa)
* For greater accuracy, use conversion factors in "Metric Practice Guide" (American Society for Testing and Materials, E 380-72).			

